

**Amendments to the claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of claims:**

Claims 1-26 (canceled)

Claim 27 (currently amended): Optoelectronic component comprising a light-emitting element and a system carrier which supports the element, for supporting or mounting the component, an auxiliary carrier made of a thermally conductive material being provided, at least regions of which are transparent or at least translucent for light, which is connected to the system carrier, on the one hand, and is thermally coupled to the element, on the other hand, and in which a recess is provided, through which the light passes,

~~wherein a light sensitive sensor is provided, which is formed on/in the element or on/in the substrate of the auxiliary carrier,~~

~~an optical arrangement which focuses, and/or which modifies the beam path of the light,~~ is provided in the optical axis of the component, and

~~the~~ wherein a light sensitive sensor is arranged in a region in which the optical arrangement which focuses, and/or which modifies the beam path of the light, reflects some of a light beam emitted by the element.

Claim 28 (previously presented): Optoelectronic component according to Claim 27, wherein the auxiliary carrier has an electrical bonding, by means of which it is electrically connected to the element.

Claim 29 (previously presented): Optoelectronic component according to Claim 27, wherein the auxiliary carrier is arranged between the system carrier and the element, and the auxiliary carrier and the element are mechanically connected in a substantially planar fashion.

Claim 30 (previously presented): Optoelectronic component according to Claim 27, wherein the system carrier, composed of a non-transparent material, is provided with an opening through which light passes.

Claim 31 (previously presented): Optoelectronic component according to Claim 27, wherein the recess in the auxiliary carrier and/or the opening of the system carrier has the configuration of a truncated cone or truncated pyramid or of a cylinder, the walls of said recess and/or opening having smooth lateral faces.

Claim 32 (previously presented): Optoelectronic component according to Claim 27, wherein the optical arrangement is fitted inside the opening of the system carrier and/or the recess of the auxiliary carrier.

Claim 33 (previously presented): Optoelectronic component according to Claim 27, wherein the optical arrangement is formed as a lens or a transparent platelet, the platelet being arranged at a defined angle between its surface normal and the optical axis of the component.

Claim 34 (previously presented): Optoelectronic component according to Claim 33, wherein the angle of the platelet arrangement is selected in such a way that a smallest possible proportion of light is reflected by the surface of the platelet, and/or a predetermined proportion thereof is reflected in a defined direction.

Claim 35 (previously presented): Optoelectronic component according to Claim 27, wherein a bonding or adhesive agent is provided, by means of which the optical arrangement is fixed inside the opening of the system carrier and/or the recess of the auxiliary carrier.

Claim 36 (previously presented): Optoelectronic component according to Claim 27, wherein in relation to the optical axis of the component, predetermined support points or support edges for the self-adjusting alignment of the optical arrangement are provided on the lateral faces and/or

edges of the recess of the auxiliary carrier and/or the lateral faces and/or edges of the opening of the system carrier.

Claim 37 (previously presented): Optoelectronic component according to Claim 36, wherein the support points or support edges are arranged on the outermost edges, facing away from the element, of the recess and/or on the outermost edges, facing away from the element, of the opening and/or on a middle section of the opening wall or recess wall (lateral faces of the opening or recess).

Claim 38 (previously presented): Optoelectronic component according to Claim 27, wherein the sensor is formed by an active electronic component, in particular semiconductor component, structured in/on the auxiliary carrier or the element.

Claim 39 (previously presented): Optoelectronic component according to Claim 27, wherein the sensor is electrically coupled to the element, either indirectly via another circuit or directly.

Claim 40 (previously presented): Optoelectronic component according to Claim 38, wherein the semiconductor component is formed by a diode or a transistor.

Claim 41 (previously presented): Optoelectronic component according to Claim 27, wherein the auxiliary carrier has a substrate made of silicon or of an SiC compound, or is formed by such a material.

Claim 42 (previously presented): Optoelectronic component according to Claim 27, wherein the element is formed by a VCSEL chip having a coherently radiating diode, an IRED chip, a chip having a spontaneously emitting diode or such a chip emitting light on a surface.

Claim 43 (previously presented): Optoelectronic component according to Claim 27, wherein the system carrier, with the auxiliary carrier attached thereto, is potted or molded at least in some areas with a non-transparent pressing, casting or molding mass.

Claim 44 (withdrawn): A method for producing an optoelectronic component, comprising a light-emitting or light receiving element and a system carrier, for supporting or mounting the component, comprising steps of:

providing an auxiliary carrier made of a thermally conductive material, at least regions of which are transparent or at least translucent for the light, by fabricating a recess for unimpeded passage of light in the auxiliary carrier by anisotropic etching,

connecting the auxiliary carrier to the element, while producing thermal coupling between the auxiliary carrier and the element, and

mechanical connecting the auxiliary carrier, carrying the element, to the system carrier, a covering layer with a thickness of  $\leq 50 \mu\text{m}$ , which covers the recess, being left in place during the etching of the recess,

wherein a sensor, which is independent of light emitting or light receiving element element, is formed by semiconductor-technological structuring steps on/in the auxiliary carrier and/or the light emitting or light receiving element, before the connection thereof, and an optical arrangement is fixed in an opening of the system carrier, the sensor and the optical arrangement being arranged in such a way that the optical arrangement which focuses, and/or which modifies the beam path of the light, reflects onto the sensor some of a light beam emitted by the light emitting or light receiving element.

Claim 45 (withdrawn): The method for producing an optoelectronic component according to Claim 44, wherein a plurality of auxiliary carriers, which are to be separated in a further process step, are connected jointly in a composite structure with independent sensors and/or with the elements to be connected thereto.

Claim 46 (withdrawn): The method for producing an optoelectronic component according to Claim 44, wherein the optical arrangement is bonded into the opening by means of a bonding or adhesive agent.

Claim 47 (withdrawn): The method for producing an optoelectronic component according to Claim 44, wherein the system carrier, with the auxiliary carrier attached thereto and the light emitting or light receiving element located thereon, is potted or moulded at least in some areas with a non-transparent pressing, casting or moulding mass.

Claim 48 (previously presented): Optoelectronic component according to Claim 27, wherein the recess in the auxiliary carrier is covered with a thin covering layer.

Claim 49 (new): Optoelectronic component according to Claim 27, wherein the light sensitive sensor is formed in the auxiliary carrier.

Claim 50 (new): Optoelectronic component according to Claim 27, wherein the light sensitive sensor is formed in the light-emitting element.